

**UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF NEW YORK**

UNITED STATES OF AMERICA,

vs.

**1:19-CR-156
(MAD)**

XIAOQING ZHENG,

Defendant.

APPEARANCES:

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Mae A. D'Agostino, U.S. District Judge:

MEMORANDUM-DECISION AND ORDER

I. INTRODUCTION

Defendant Xiaoqing Zheng ("Defendant") was hired by General Electric ("GE") in 2008 and worked at GE as a full-time engineer until on or about August 1, 2018, the date of his arrest. On April 18, 2019, Defendant was charged along with Zhaoxi Zhang in Indictment No. 1:19-cr-156 with theft of GE's trade secrets and economic espionage. *See* Dkt. No. 25. In a fourteen-count Superseding Indictment dated August 10, 2021, Defendant was charged as follows in twelve counts: one count of Conspiracy to Commit Economic Espionage, in violation of Title 18, United States Code, Section 1831(a)(5) (Count One); one count of Conspiracy to Commit Theft of Trade Secrets, in violation of Title 18, United States Code, Section 1832(a)(5) (Count Two); five counts of Economic Espionage, in violation of Title 18, United States Code, Sections 1831(a)(1) and (2) (Counts Three, Four, Seven, Eight, and Nine); six counts of Theft of Trade Secrets, in violation of Title 18, United States Code, Sections 1832(a)(1), (2) and (3) (Counts Five, Six, Nine, Ten and Thirteen); and one count of False Statement or Entries, in violation of Title 18, United States Code, Section 1001(a)(2) (Count Fourteen). *See* Dkt. No. 140.

Trial in this case commenced on March 3, 2022, and on March 31, 2022, the jury returned a guilty verdict on Count One (Conspiracy to Commit Economic Espionage), not guilty verdicts on Counts Seven, Eight, Nine, and Ten, and hung on Counts Two, Three, Four, Five, Six, Thirteen, and Fourteen. *See* Dkt. No. 249. On June 29, 2022, Defendant moved for a judgment of acquittal as to Count One under Rule 29(c) of the Federal Rules of Criminal Procedure or, in the alternative, for a new trial under Rule 33(a). *See* Dkt. No. 277. As set forth below, Defendant's motion is denied.

II. BACKGROUND

A. Defendant's Personal Background

Defendant is a United States citizen of Chinese descent. Defendant has a bachelor's degree, master's degree, and doctoral degree, all in Aeronautical Propulsion and Thermal Engineering, and all from Northwestern Polytechnic University in Xi'an, China. As of August 1, 2018, Defendant was fifty-five years old, had been employed with the General Electric Company's Power business in Schenectady, New York for more than ten years as an engineer specializing in turbine-sealing technologies, was the author of dozens of technical papers and other publications, and had provided lectures to students from at least two different universities located within the United States. Defendant was regarded as one of the world's leading experts in turbine-sealing technology.

B. China's 13th Five-Year Plan and China's "Made in China 2025" Initiative

At trial, SUNY Albany Professor Cheng Chen, Ph.D., an expert witness in Chinese government structure and politics, testified that "five year plans are [the] Chinese government's economic blueprints or economic guidelines that's published every five years to identify economic priorities for our country." Tr. at 1100. In the 2016-2018 timeframe, the 13th five-year plan was in effect. *See id.* at 1100-01. Professor Chen further explained that China's five-year plans are "widely promoted by the government, and it's widely promoted within the Chinese public as well." *Id.* at 1101.

Professor Chen also explained the focus of the 13th five-year plan and how the "plan has a broad goal of moving China up the industrial chain by upgrading its entire manufacturing sector. So to do that, the country is supposed to focus on the innovation and high tech sectors, such as

aero engines and industrial gas turbines[.]" *Id.* According to Professor Chen, bettering China's industrial gas turbine is a top focus of the 13th five-year plan. *See id.*

Five-year plans are a "major national initiative" and, according to Professor Chen, China operates a ministry of science and technology to coordinate these activities throughout the country. *See id.* at 1102. China's ministry of science and technology also has lower level branches at the provincial and local levels. *See id.*

In addition to the 13th five-year plan, China published the Made in China 2025 initiative that worked in a complementary fashion with the aforementioned five-year plan. *See Tr.* at 1103-04. Professor Chen testified that the Made in China 2025 initiative is a "national" initiative and that the "whole purpose is to upgrade the country's manufacturing sector by moving China away from low-end manufacturing as a world country and make China the leader, the world leader in science and technology." *Id.* at 1103. The Made in China 2025 initiative has specific areas of focus such as "high tech sectors, such as aerospace" and turbine power generation. *See id.* at 1104.

C. Financial and Economic Incentives Offered by China

The Peoples Republic of China ("PRC") and its provincial governments offer financial and economic incentives to Chinese companies who research, develop, design, test, and manufacture products and technologies (such as ground-based and aviation turbines) sought by the Chinese government. At trial, the Government introduced evidence regarding the August 2018 search of Defendant's residence, during which it was discovered that Defendant was in possession of at least two documents published by Liaoning provincial governmental entities that detailed the financial and economic incentives available to Chinese companies who possessed the technologies in which the PRC, as a nation, sought to excel.

Recovered from the August 2018 search was the Liaoyang Municipal Science and Technology Bureau's September 2017 publication entitled "Ten Benefits for Being a High and New Tech Enterprise and Accreditation Criteria and Procedures for Becoming a High and New Tech Enterprise." *See* Gov't Ex. 22(b). Some of the financial and economic incentives offered by the Bureau include the following: (1) high and new tech enterprises being "eligible for a preferential tax rate of 15%"; (2) direct "cash rewards (up to a million)"; and (3) "[f]inancing and loans: [e]asier to obtain VC investments and loans from major banks." *Id.* at 2. Also recovered from the search was the Liaoning Provincial S&T Department's June 2017 "Enterprise S&T Innovation Policy Book." Gov't Ex. 23(b). Some of the financial incentives offered by the S&T Department include having the company's tax rate reduced to 15%. *See id.* at 14.

D. Public Universities In China and Efforts at Enhancing Economic Development

Professor Chen testified at trial that Huaihai Institute of Technology is a public university administered by the Jiangsu provincial government and the PRC's ministry of education. *See* Tr. at 1110. In the 2016-2018 timeframe, Huaihai Institute of Technology was focused on "marine engineering and mechanical engineering." *Id.* at 1112. When asked by Assistant United States Attorney ("AUSA") Chang "if research projects at Huaihai Institute [of] Technology go well, does that benefit the Chinese government," Professor Chen responded "of course." *Id.*

Professor Chen also testified that Shenyang Aerospace University "is a large public university" in Liaoning Province, and that it trains engineers for China's civilian and military work forces. *See id.* at 1118. According to Professor Chen, Shenyang Aerospace University ultimately reports back to the Chinese Communist Party for guidance, and its research is expected to be in line with the 13th five-year plan's priorities. *See id.* at 1118-19. When asked by AUSA Chang if research endeavors pursued by, and benefitting, Shenyang Aerospace University "would

also benefit the Chin[ese] government," Professor Chen responded "[o]f course. Without a doubt." *Id.* at 1119.

Professor Chen also provided insight into the Shenyang Aero Engine Research Institute and the Beijing University of Aeronautics and Astronautics. According to Professor Chen, "Shenyang Aero Engine Research Institute is actually one of the leading research institutes in China that specializes in R&D of large and medium turbo jet engines as well as natural gas turbines. It – it belongs to Aero Engine [Corporation] of China, which is another large[] state-owned enterprise." *Id.* Another major public university is Beijing University of Aeronautics and Astronautics which "specializes on aeronautics, astronautics" and is "administered by the ministry of industry and information technology." *Id.* at 1121. The research at Beijing University of Aeronautics and Astronautics is guided by policies like the 13th five-year plan and Professor Chen testified that the success of its research projects directly benefits the Chinese government. *See id.* at 1122.

E. Defendant's Efforts at Collaboration with Chinese Universities

At trial, the Government introduced evidence demonstrating that between 2016 and 2018, Defendant and Mr. Zhaoxi Zhang made significant efforts to partner and collaborate with the Chinese universities described above on various research projects. *See* Gov't Exs. 41(b), 46(b), 57(b) and 58(d). For example, the Government introduced evidence that Defendant was the general manager of a Chinese parts supplier company called Lioning Tianyi Aviation Technology Co. Ltd. ("LTAT"). Recovered from a WeChat sent to Defendant on July 12, 2018, was a draft "Strategic Cooperation Agreement" between LTAT and Shenyang Aerospace University for a project titled "Development of Brush Seal Technology for Aircraft Engine." *See* Gov't Ex. 42(b). In the Agreement, LTAT and Shenyang Aerospace University "share the goal to serve our

enterprise, meet our industrial needs, improve our teaching quality and the scientific research level, and enhance our innovation capability" and, "will not only strive for breakthroughs in academic researches but also for economic benefits so as to create win-win for our joint efforts."

Id. at 1.

Similarly, the Government introduced a draft "Strategic Agreement for the Establishment of a Joint Research and Development Center for Aero Engine Seal Components" between LTAT and AECC Shenyang Aero Engine Research Institute. *See* Gov't Ex. 58(d). Section I of the Agreement titled "The Purpose of Cooperation" reads as follows:

With China's macro government policy environment influenced by the "Outline of the 13th Five-Year Plan for the National Economic and Social Development of the People's Republic of China" and "Made in China 2025," this establishment of a "R&D Center" by the two parties fit with the big trend of national in-depth development of military-civilian integration. We the parties would like to actively explore and promote a new model that better integrates the R&D of technologies in the design and application of engine sealing components and that of engine manufacturing.

Id. at 3.

In the section entitled "The Vision of Enterprise Development," the Agreement further provides that

[d]uring the national "13th Five-Year Plan" period, Tianyi Aviation¹ will vigorously promote the "Made in China 2025." With a favorable environment for in-depth civil-military integration and with China's initiation of major dedicated projects for aero engines and gas turbines, we will utilize our own strengths in specialized technologies and do our best to provide advanced and excellent sealing products for China's development and manufacturing in aero engines, gas turbines and other equipment. We will make our own contribution to China's aero engine and gas turbine business!

¹ The Government introduced evidence at trial showing that Defendant was the owner of a Chinese parts supplier company called Nanjing Tianyi Aeronautical Technology, Ltd. ("NTAT") or Tianyi Aviation Technology Company, located in Nanjing, China.

Id. at 10.

As an example of NTAT's collaboration with a Chinese university, the Government introduced another document recovered from a WeChat sent to Defendant on or about June 3, 2018. *See* Gov't Ex. 57(a). This document was titled "Technical Services Contract" and was a contract between NTAT and Beijing University of Aeronautics and Astronautics ("BUAA") for a project titled "Research and Development of High Speed Pneumatic Bearing and Sealing Technology." Gov't Ex. 57(b). In the contract, BUAA promised to pay NTAT one million yuan to provide BUAA with technical services and research and development involving turbine seal technologies. *See id.* at 2, 4. The contract contained Defendant's signature as NTAT's legal representative. *See id.* at 8.

F. Defendant's Theft of GE's Trade Secrets and Transmission to China

The Government also introduced evidence that, between 2016 and 2018, Defendant, while still employed as a mechanical engineer for GE, stole and/or transmitted numerous electronic files that contained GE's trade secrets surrounding various steam and gas turbine parts and technologies.

On June 6, 2017, the evidence at trial established that Defendant stole two digital GE trade secret files ("cutting teeth-109E8755.pdf" and "cutting teeth-117E5611.pdf") that contained manufacturing drawings for turbine blades used in certain GE ground-based gas turbines, such as the 7F class gas turbine. *See* Gov't Exs. 34(a)-(c), (e)-(f); Tr. at 911-31. Defendant perpetrated this particular theft by first encrypting (with a password that only he knew) the GE trade secret files using the "Axcrypt" program, then using steganography to hide the trade secret files in side the code of an otherwise innocuous looking digital picture of some bamboo shoots, and then e-

mailing the digital picture (which contained the stolen GE trade secret files) to his person Hotmail e-mail account. *See* Gov't Ex. 31(b).

On August 22, 2017, Defendant was in possession of a GE trade secret digital file ("2-U8668.pdf") containing a manufacturing drawing of a brush seal used in various GE steam turbines (such as the A650, D600 & D650 models) and transmitted this trade secret file, via e-mail, to Mr. Zhang who was located in China. *See* Gov't Exs. 35(a)-(b), (d); Gov't Ex. 31(c); Tr. at 706-18.

On September 1, 2017, Defendant was in possession of seven GE trade secret computer-aided design ("CAD") files, four of which related to various aspects of seal testing rigs, and three of which related to an aviation turbine aspirating face seal. The evidence at trial demonstrated that Defendant transmitted these files, via e-mail, to Mr. Zhang in China. *See* Gov't Exs. 36(a)-(c); Gov't Ex. 31(d); Tr. at 1030-43, 1082-87. The four test rig files included file "15.2 CLS.x_t" which is a CAD model of the "Leap Rig" seal testing rig currently in use at GE Global Research in Niskayuna, New York. *See* Tr. at 1032-33, 1082; Gov't Ex. 12(u). This particular file gives the dimensions and geometry of the "Leap Rig," which is a special seal testing rig that can replicate the conditions inside of a GE ground turbine or aviation turbine. *See* Tr. at 1040, 1082-83. The three aspirating face seal files included file "4013498-057AA-0_6.x_t" which is a CAD model of an aspirating face seal that GE had been developing for more than twenty years and was used in GE's aviation engines. *See* Tr. at 1040, 1084-85. This file provides the dimensions and geometry of the seal down to 1/1000th of an inch. *See id.* at 1041-42.

The Government also introduced evidence showing that on October 23, 2017, Defendant stole several GE trade secret CAD files (including file "dln20512.prt") that contained design drawings for various gas turbine combustion chamber parts, including the fuel nozzle used in

certain GE ground-based gas turbines, such as the 7F class gas turbine. *See* Gov't Exs. 36(a)-(g); Tr. at 939-45, 970-71. Defendant perpetrated this theft by first encrypting the GE trade secret files using the "Axcrypt" program, then using steganography and hiding the digital files inside of the code of otherwise innocuous looking digital pictures of gas turbines, and then e-mailing the digital pictures containing the trade secret files to his personal Hotmail e-mail account. *See* Gov't Ex. 31(g).

G. Defendant's Companies

Evidence admitted at trial established that Defendant held leadership roles, and maintained ownership stakes, in two Chinese turbine technology companies: Liaoning Tianyi Aviation Co., Ltd. ("LTAT") (located in Liaoning Province, China) and Nanjing Tianyi Aviation Technology Co., Ltd. ("NTAT") (located in Jiangsu Province, China). *See* Gov't Ex. 23(b) at 1; Gov't Ex. 56(d) at 19, 24. According to LTAT's company brochure, its business is focused on "the research and development, design, manufacture and verification of the mechanical seal technology of the aero engine and the ground engine. ..." Gov't Ex. 21(a) at 2. The company brochure further notes that LTAT provides "'seamless' sealing products for power machinery." *Id.* NTAT's business is similarly focused, and as Defendant wrote in one of NTAT's 2017 business proposals, "the company will focus on R&D of sealing technology for use in steam turbines and gas turbines, replacing existing technology for steam turbines, and developing gas turbine sealing technology. In later stage, the company will primarily engage in R&D of sealing technology for aero-engines to replace imported engines." Gov't Ex. 56(d) at 19.

Evidence at trial also showed that Defendant and Mr. Zhang knew that the turbine technologies that their companies purported to possess were technologies sought after by the Chinese government. In Defendant's written remarks, dated July 18, 2018, to Communist Party of

China Secretary Wang Fengbo (recovered in hard copy format from a blue GE folder inside of Defendant's suitcase), Defendant was pleased to report that LTAT had made great progress with its "Seal Manufacturing Project" and that phase one of the project was "largely ready for going into production. ..." Gov't Ex. 43(b) at 2. In Defendant's "Script of Speech," also dated July 18, 2018, to Communist Party Secretary Fengbo (recovered in digital format from a July 17, 2018 WeChat between Defendant and Mr. Zhang), Defendant was pleased to report that LTAT's primary business included researching and designing gas and steam turbine components, which were products "designated by the State as a product of high and new technology and it is entirely eligible to be an import replacement." Gov't Ex. 46(b) at 1. Defendant continued in his prepared speech by noting that once LTAT was in full production, "we can export the product to foreign markets which will be China's first export of aircraft sealing products. This will also be [a] historical breakthrough in the improvement of life span and performance of aircraft engines made in China." *Id.*

Between 2016 and 2018, Defendant used both LTAT and NTAT to seek and obtain significant financial and economic incentives (such as cash grants, low interest loans, lower corporate tax rates, etc.) from the PRC government and/or its provincial governments. *See, e.g.*, Gov't Exs. 55(b) & 56(d). For example, in LTAT's 2017 "Project Initiation Application" for a project titled "Aircraft Engine Mechanical Seal Research and Manufacturing Project" made (or to be made) to the Liaoning Province Committee of Industry & Information Technology, Defendant and Mr. Zhang sought over 100 "Mu"² of land, and hundreds of millions of Chinese yuan in financing for LTAT. *See* Gov't Ex. 55(b) at 20-23. Additionally, in a June 26, 2016 WeChat

² "Mu" is a Chinese unit of land measurement that varies by location, but commonly one "Mu" equals 0.165 acre.

from Mr. Zhang to Defendant, Mr. Zhang wrote that he thought that the 50 million yuan capital investment from Liaoning Province was almost secured. *See* Gov't Ex. 39(m). Additionally, NTAT's 2017 "Business Proposal" for "Research and Development Plan of the Key Technology of Mechanical Sealing for Engines" sought millions of Chinese RMB³ funding in grants and loans from the government of China to assist with the company's plans for the growth of its turbine sealing business. *See* Gov't Ex. 56(d) at 1, 22.⁴

III. DISCUSSION

A. Legal Standards

1. *Fed. R. Crim. P. 29*

Rule 29 of the Federal Rules of Criminal Procedure allows for a criminal defendant to move for entry of a judgment of acquittal if the evidence is insufficient to sustain a conviction. *See* Fed. R. Crim. P. 29. A defendant challenging the sufficiency of the evidence underlying a conviction bears "a very heavy burden." *United States v. Ragosta*, 970 F.2d 1085, 1089 (2d Cir. 1992). In evaluating such a motion, the Court must "review all of the evidence presented at trial in the light most favorable to the government, crediting every inference that the jury might have drawn in favor of the government." *United States v. Walker*, 191 F.3d 326, 333 (2d Cir. 1999) (internal quotation marks omitted); *see also* *United States v. Baker*, 899 F.3d 123, 129 (2d Cir. 2018). The Court affirms a conviction as long as "*any* rational trier of fact could have found the essential elements of the crime beyond a reasonable doubt." *Jackson v. Virginia*, 443 U.S. 307,

³ Renminbi, often abbreviated as "RMB," is the currency of China and is interchangeable with the Chinese yuan, which is the basic unit of RMB. During the period of the conspiracy, approximately seven RMB were equal to one United States dollar. *See* Tr. at 1206-07.

⁴ The NTAT Business Proposal also notes that in December 2015, NTAT "received 1 million yuan grants from the Nanjing 321 Talents Project." Gov't Ex. 56(d) at 1.

319 (1979) (emphasis in original). Put differently, vacatur is warranted "only if the evidence that the defendant committed the crime alleged is nonexistent or so meager that no reasonable jury could find guilt beyond a reasonable doubt." *United States v. Facen*, 812 F.3d 280, 286 (2d Cir. 2016) (internal quotation marks omitted).

The "high degree of deference [the Court] must afford to a jury verdict is especially important when reviewing a conviction of conspiracy." *United States v. Landesman*, 17 F.4th 298, 320 (2d Cir. 2021) (quotation omitted). "This is so because a conspiracy by its very nature is a secretive operation, and it is a rare case where all aspects of a conspiracy can be laid bare in court with the precision of a surgeon's scalpel." *Id.* (quotation omitted). "The 'agreement [to participate in the conspiracy] may be inferred from the facts and circumstances of the case[.]' and '[b]oth the existence of the conspiracy and the defendant's participation in it with the requisite criminal intent may be established through circumstantial evidence.'" *Id.* (quoting *United States v. Wexler*, 522 F.3d 194, 207-08 (2d Cir. 2008)). "Moreover, '[s]eemingly innocent acts taken individually may indicate complicity when viewed collectively and with reference to the circumstances in general.'" *Id.* (quotation omitted).

2. Fed. R. Crim. P. 33

Rule 33 of the Federal Rules of Criminal Procedure allows a court to "vacate any judgment and grant a new trial if the interest of justice so requires." Fed. R. Crim. P. 33(a). "Generally, the trial court has broader discretion to grant a new trial under Rule 33 than to grant a motion for acquittal under Rule 29, but it nonetheless must exercise the Rule 33 authority sparingly and in the most extraordinary circumstances." *United States v. Ferguson*, 246 F.3d 129, 134 (2d Cir. 2001) (internal quotations omitted). The "ultimate test" for a Rule 33 motion is "whether letting a guilty verdict stand would be a manifest injustice." *United States v. Alston*,

899 F.3d 135, 146 (2d Cir. 2018) (citation omitted); *see also United States v. Hunter*, 32 F.4th 22, 30 (2d Cir. 2022) (holding that "[t]he defendant bears the burden of proving that he is entitled to a new trial,' and in order to grant a new trial, 'a district court must find that there is a real concern that an innocent person may have been convicted'" (quotation omitted).

B. Sufficiency of the Evidence

In his motion for judgment of acquittal or for a new trial, Defendant first contends that he is entitled to relief because the Government failed to prove that his conduct was intended to "benefit" a foreign entity, as required to support a conviction for Conspiracy to Commit Economic Espionage, in violation of Title 18, United States Code, Section 1831(a)(5). *See* Dkt. No. 277-1 at 3-9. Specifically, Defendant argues that the Government failed to present evidence showing that he "conspired to provide trade secrets directly to the Chinese government," and that "receiv[ing] grant funding from the Chinese government or [meeting] with Chinese government officials does not rise, as a matter of law, to his participation in a conspiracy to commit economic espionage." *Id.* at 3. In response, the Government argues that Defendant relies on an inappropriately narrow view of the word "benefit," misconstrues the legislative history of 18 U.S.C. § 1831, and ignores relevant evidence introduced at trial. *See* Dkt. No. 282 at 23-27.

The Economic Espionage Act ("EEA") "became law in October 1996 against a backdrop of increasing threats to corporate security and a rising tide of international and domestic economic espionage." *United States v. Liew*, 856 F.3d 585, 596 (9th Cir. 2017) (quoting *United States v. Hsu*, 155 F.3d 189, 194 (3d Cir. 1998)). "In 'the absence of any comprehensive federal remedy' directed at trade secret theft, businesses were losing billions in stolen intellectual property, and prosecutors were forced to find creative ways of prosecuting these crimes." *Id.*

(quotation omitted). "The EEA was therefore intended to provide a 'systematic approach' to combating economic espionage." *Id.* at 596-97 (quotation omitted).

The EEA punishes both (1) "[e]conomic espionage," which involves trade secret misappropriation intended to or done with the knowledge that it will "benefit any foreign government, foreign instrumentality, or foreign agent," 18 U.S.C. § 1831; and (2) "[t]heft of trade secrets," where the trade secret "is related to a product or service used in or intended for use in interstate or foreign commerce" and is knowingly converted "to the economic benefit of anyone other than the owner" with the intent or knowledge that the conversion "will[] injure any owner of that trade secret," 18 U.S.C. § 1832. Although the provisions are similar, "§ 1832 'is a general criminal trade secrets provision' requiring that the benefit be 'economic,'" whereas the "benefit" under § 1831 is read more broadly and the benefit must be directed, at least in part, to a foreign government, instrumentality, or agent. *See Hsu*, 155 F.3d at 195.

"Section 1832 also contains at least three additional limitations not found in § 1831." *Id.* "First, a defendant charged under § 1832 must intend to convert a trade secret 'to the economic benefit of anyone other than the owner thereof,' including the defendant himself." *Id.* "This 'economic benefit' requirement differs from § 1831, which states merely that the offense 'benefit,' in any manner, a foreign government, instrumentality, or agent." *Id.* at 196-97. "Therefore, prosecutions under § 1832 uniquely require that the defendant intend to confer an economic benefit on the defendant or another person or entity." *Id.* at 196. "Second, § 1832 states that the defendant must intend or know that the offense will injure an owner of the trade secret, a restriction not found in § 1831." *Id.* "The legislative history indicates that this requires 'that the actor knew or was aware to a practical certainty that his conduct would cause such a result.'" *Id.* (quoting S. Rep. No. 104-359, at 15). "Finally, unlike § 1831, § 1832 also requires that the trade

secret be 'related to or included in a product that is produced for or placed in interstate or foreign commerce.'" *Id.*

Here, Defendant argues as follows: "[t]he question before the court on this part of the motion is whether a 'benefit' to a foreign entity is proven when the government shows that the defendant provided trade secrets to a private entity or person who's object it was to produce products that would be in alignment with a foreign country's stated national policies." Dkt. No. 277-1 at 3. According to Defendant, the alleged overt acts were that "he sent emails purportedly containing trade secrets to himself and Mr. Zhang in China that could be a basis for manufacturing products that the Chinese multi-year plan identified as national policy objectives." *Id.* (footnote omitted). Defendant argues that there was no evidence presented that he "conspired to provide trade secrets directly to the Chinese government, and the government's evidence that [Defendant] was to or did receive grant funding from the Chinese government or met with Chinese government officials does not rise, as a matter of law, to his participation in a conspiracy to commit economic espionage." *Id.* (footnote omitted). Defendant claims that this evidence is insufficient to establish that his conduct was for the "benefit of any foreign government." *Id.* at 6.

In support of his position, Defendant relies on *United States v. Lan Lee*, No. 06-cr-424, 2010 WL 8696087 (N.D. Cal. May 21, 2010). In that case, the defendants were charged with conspiracy and substantive violations of economic espionage and, on the motion for judgment of acquittal, the court was required to determine "whether the government has met its burden on the 'benefit to a foreign government' element of the charge of Economic Espionage by proving that Defendants intended to apply for a grant from a program funded and operated by the People's Republic of China ('PRC')." *Id.* at *1. At trial, the evidence established that the defendants were

engineers employed by NetLogic Microsystems ("NetLogic") who had unauthorized copies of NetLogic technical documents on their home computers. *See id.* A search of the computer files also revealed that the defendants had set up their own corporation and were using the NetLogic information and information belonging to Taiwan Semiconductor Manufacturing Company ("TSMC") to develop a competing product in the PRC. *See id.* The defendants argued that the government was required to prove that they intended to provide the PRC with a "tangible benefit" through their conduct, while the government argued that "any benefit, including a reputational benefit that would inure to the PRC government from funding [the defendants'] development satisfies its burden to present evidence that [the defendants] intended to confer a benefit on a foreign government." *Id.* at *3. At trial, the government did not present any evidence that the defendants intended to enter into a venture capital relationship with an agent or instrumentality of the PRC, but did present evidence that they intended to apply for funds from a program set up by the PRC to enhance the reputation of China as a place for technological innovation. *Id.* at *4.

Looking to the legislative history, the court in *Lan Lee* held that evidence that the defendants "intended to apply for a grant from the PRC is insufficient to satisfy the statutory requirement that the government prove that the Defendants intended to provide a benefit to the PRC, or one of its instrumentalities or agents." *Id.* at *8. In reaching this conclusion, the court noted that, "[a]lthough the term 'industrial espionage' has been adopted in reference to commercial theft of trade secrets, traditionally, the word 'espionage' is associated with activity sponsored or solicited by a foreign government." *Id.* at *5 (footnotes omitted). The court continued as follows:

An inherent feature of espionage is that the information is turned over to the foreign government or to an agent of the foreign government. Espionage is not committed if a defendant takes the

information to a foreign country with no intent to give it or use it for the foreign government. Section 1831 does not penalize a defendant's intent to personally benefit or an intent to bestow benefits on the economy of a country that might be realized from operating a company in a foreign country. The defendant must intend to benefit a foreign government, instrumentality or agent.

Id. at *6. In reviewing the legislative history, the court determined "that the 'benefit any foreign government' element must be interpreted to refer to the benefits ordinarily associated with 'espionage.'" *Id.* at *6. "Thus, to have met its burden to produce evidence on the 'benefit any foreign government' element, as of the close of the evidence, the government must have presented evidence upon which a rational trier of fact could find that Defendants acted intending to turn over possession of the trade secret to or use the trade secret on the behalf of or for the benefit of an agent or instrumentality of the PRC. Evidence that Defendants solely intended to benefit themselves in the PRC, or benefit a private corporation in the PRC is insufficient for the charge of Economic Espionage." *Id.* at *7. As such, the court found that the defendants' conduct of using the stolen information in a private company in the PRC, with funds provided by the PRC to fund the company's initial development, is insufficient to establish the element of "benefit to any foreign government." *Id.*

The Court agrees with the Government that Defendant and the court in *Lan Lee* use an inappropriately narrow view of the word "benefit" and misconstrue the legislative history of Section 1831. Moreover, Defendant has ignored relevant evidence presented by the Government at trial and *Lan Lee* is readily distinguishable.

Through publication of the 13th five-year plan and the Made in China 2025 initiative, the PRC made clear to its citizens, and the world, that it wanted to improve upon the country's organic abilities to research, develop, design, test, manufacture, and service turbine products and

technologies. *See* Tr. at 1100-04. And, through various PRC and PRC provincial government publications, the PRC made it clear that generous financial and economic incentives would be provided to those Chinese companies who could bring to China those technologies, like turbine technologies, that the PRC desperately sought. *See* Gov't Exs. 22(b) & 23(b). The evidence at trial established that Defendant and Mr. Zhang were motivated to make money and knew that if they could bring their Chinese companies (LTAT and NTAT) those turbine technologies sought by the PRC, the PRC and its provincial governments would provide them and their Chinese companies with sizeable financial and economic benefits – all of which amounted to a mutually beneficial relationship. *See* Gov't Ex. 58(d) at 3, 10; Gov't Ex. 43(b) at 2; Gov't Ex. 46(b) at 1.

Defendant argues that the Court should give the word "benefit" a very narrow meaning, and with such a narrow interpretation, there was no evidence for the jury to find that Defendant's Conspiracy to Commit Economic Espionage was perpetrated with the knowledge or intent to benefit the PRC or its instrumentalities. *See* Dkt. No. 277-1 at 3-5. Defendant further argues that conspiring to provide trade secrets to a private Chinese entity or person, who would in turn produce products aligned with China's stated national priorities, is not the type of benefit to a foreign government or instrumentality that Section 1831 intended to criminalize. *See id.* at 3-4. The Court disagrees.

While the courts in *Hsu* and *Lan Lee* equate "economic espionage" with "intelligence activity," the statutory text and full legislative history does not support this conclusion. The legislative history makes clear that the term "benefit" was intended to be interpreted much broader under Section 1831 compared to Section 1832. Specifically, the legislative history states as follows:

a person will be guilty under this section if they wrongfully copied or otherwise controlled a trade secret with the intent to benefit any foreign government, foreign instrumentality or foreign agent. In this instance, *"benefit" is intended to be interpreted broadly*. The defendant did not have to intend to confer an economic benefit to the foreign government, instrumentality, or agent, to himself, or to any third person. Rather, the government need only prove that the actor intended that his actions in copying or otherwise controlling the trade secret would benefit the foreign government, instrumentality, or agent in any way. Therefore, in this circumstance, *benefit means not only an economic benefit but also reputational, strategic, or tactical benefit*.

Economic Espionage Act of 1996, H.R. Rep. No. 104-788 at 11 (1996) (emphasis added).

Here, the evidence at trial established that Defendant's conspiracy to steal and transmit GE's trade secrets, which was motivated, in substantial part, by a desire to provide the PRC and its provincial governments with the technologies they sought, was a scheme intended to benefit a foreign government or instrumentality. The legislative history places no limitation on a fact pattern which involves a conspiracy to steal a domestic company's trade secrets and transmit those stolen trade secrets to private Chinese companies who collaborate with public Chinese universities, and who, at the behest of the Chinese government, are being encouraged to research, develop, design, test, and manufacture the technologies found in the stolen trade secrets. The fact that Defendant intended to personally benefit from his conduct does not preclude a finding that his conduct was also undertaken to with the intention of benefitting a foreign government, instrumentality, or agent. The language of Section 1831 does not preclude a conviction where the defendant derives some benefit from his conduct; rather, all that is required is for the defendant to engage in the conduct knowing or intending his conduct to also benefit a foreign government, instrumentality, or agent.

In this case, the evidence at trial established that Defendant and Mr. Zhang knew that the PRC and its provincial governments prioritized the innovation and development of turbine technologies within Chinese corporations and universities, and how such innovation and development would help advance the PRC's economic, national security, and strategic interests. Through a scheme to steal GE's trade secrets surrounding its turbine technologies, and then transmitting those stolen trade secrets to various private Chinese companies (owned and operated by Defendant and Mr. Zhang) who collaborate with public Chinese universities, Defendant and Mr. Zhang knew and intended that the thefts/transmissions of GE's trade secrets would advance the PRC's economic, national security, and strategic interests. *See* Gov't Ex. 58(d) at 3, 10 (Defendant stating that "we will ... do our best to provide advanced and excellent sealing products for China's development and manufacturing in aero engines, gas turbines and other equipment. We will make our own contributions to China's aero engine and gas turbine business!").

Defendant's reliance on *Lan Lee* is also misplaced. There, as discussed above, the defendants stole trade secrets to use in a private company in China, and then contacted a venture capital company operated by an individual in Beijing. *See Lan Lee*, 2010 WL 8696087, at *7. The court granted the motion for acquittal in part because "[t]here was no proof that [the venture capital company] was an instrumentality or agent of the PRC," and "there was no evidence that Defendants knew that the information would confer a benefit on the PRC." *Id.* The court also noted that, prior to trial, the government indicated and the court believed that the government intended to offer evidence establishing that the defendants sought to enter into a venture capital relationship in which the PRC was the investor. *See id.* at *8. Had the government introduced evidence that the defendants sought funding for their corporation from the PRC, the court noted

that "this could be viewed by a reasonable jury as an intent to confer the benefit" on the PRC. *See id.*

Here, as discussed above, the Government offered Professor Chen's testimony to establish that the entities with which Defendant was doing business (such as Huaihai Institute of Technology, Shenyang Aerospace University, Shenyang Aero Engine Research Institute, etc.) were foreign instrumentalities, controlled or sponsored by the Chinese government. *See* Tr. at 1108-12, 1118-19. The Government also presented evidence to show that Defendant knew the theft of trade secrets would benefit both the Chinese government and various alleged foreign instrumentalities. For example, Defendant's WeChat messages and other contractual documents found in Defendant's possession show discussions and statements about the direction of Defendant's companies and how working with the Chinese government and various foreign instrumentalities would be mutually beneficial to all parties involved. *See* Gov't Exs. 42(b), 46(b), 57(a)-(b), & 58(b). In one document, a contract between NTAT and BUAA and signed by Defendant as NTAT's legal representative, BUAA (a public university funded by the PRC) agreed to pay NTAT one million yuan to provide BUAA with technical services and research development involving turbine seal technologies. *See* Gov't Ex. 57(b) at 2, 4 and 8. Such facts clearly make this case distinguishable from the cases upon which Defendant relies.

As the Government correctly notes, in a conspiracy to commit economic espionage, the Government is not required to prove that a benefit was actually conferred on a foreign government or its instrumentality. Moreover, the Government is not required to establish that the foreign government or instrumentality is the only entity that benefits from the theft of trade secrets. Rather, as was done in this case, the Government must prove a scheme in which the conspirators possessed an intent or knowledge that their theft of trade secrets would benefit a

foreign government, foreign instrumentality, or foreign agent. The evidence admitted at trial was unambiguous in establishing that Defendant knew, and intended, that the turbine technology trade secrets taken from GE would benefit himself personally, as well as the Chinese government and various foreign instrumentalities by advancing their ability to research, develop, design, test, manufacture, and service turbines and turbine technologies.

Accordingly, the Court denies this aspect of Defendant's motion for judgment of acquittal or, in the alternative, for a new trial.

C. Inconsistent Verdict on Counts One and Two

Defendant next argues, for the jury to have found him guilty on Count One (Conspiracy to Commit Economic Espionage), the jury would have had to implicitly found that Defendant conspired to steal a trade secret under Section 1832 and, because the jury hung on Count Two, the verdicts on Counts One and Two are inconsistent and warrant setting aside the guilty verdict on Count One. *See* Dkt. No. 277-1 at 9-12. According to Defendant, the verdicts on Counts One and Two were inconsistent because, to find Defendant guilty of Conspiracy to Commit Economic Espionage, the Government was required to prove all of the elements of Conspiracy to Commit Theft of Trade Secrets (Count Two), along with the added requirement that the theft is done for the benefit of a foreign government. *See id.* at 11.

Initially, the Court notes that "[t]he Supreme Court has held that inconsistency among verdicts is not a basis for setting aside a conviction." *United States v. Gray*, 421 Fed. Appx. 11, 14 (2d Cir. 2011) (citing *United States v. Powell*, 469 U.S. 57, 69 (1984)). In *Powell*, the Court expressly "reject[ed], as imprudent and unworkable, a rule that would allow criminal defendants to challenge inconsistent verdicts on the ground that in their case the verdict was not the product of lenity, but of some error that worked against them." *Powell*, 469 U.S. at 66. It reasoned that

"[s]uch an individualized assessment of the reason for the inconsistency would be based either on pure speculation, or would require inquiries into the jury's deliberations that courts generally will not undertake." *Id.* The *Powell* Court further observed that a review for sufficiency of the evidence "should not be confused with the problems caused by inconsistent verdicts." *Id.* at 67. Accordingly, on this ground alone Defendant's motion must be denied.

Even if Defendant could challenge the verdict was inconsistent, it must still be denied for the additional reason that the verdict is not inconsistent. As the Court instructed the jury, the elements that comprise offenses under Sections 1831 and 1832 have some overlap, but they also have distinct elements. Convictions under Section 1832 require a jury to find that the stolen trade secret information "was related to or included in a product or service used in or intended for use in interstate commerce" and that "the defendant acted with the intent to convert the information to the economic advantage of himself or another, knowing or intending that this would injure GE," whereas Section 1831 has no such elements. Conversely, convictions under Section 1831 require the jury to find that, at the time the defendant stole, concealed, possessed, etc. the trade secrets, he "acted with the intent to benefit a foreign government or foreign instrumentality or foreign agent or knew that it would benefit a foreign government or instrumentality or agent," whereas Section 1832 has no such element. As such, the jury could have found that the Government failed to prove beyond a reasonable doubt that Defendant knew or intended that his conduct would injure GE, thereby causing a hung jury or acquittal on Conspiracy to Commit Theft of Trade Secrets under Section 1832, yet still find him guilty of Conspiracy to Commit Economic Espionage because Section 1831 does not require a finding of intentional or knowing damage to GE.

Accordingly, the Court denies Defendant's motion on this ground.

D. Forfeiture

In its response to Defendant's motion, the Government argues that the Court should find that certain property seized from Defendant was used by Defendant to commit his crime of conviction, and that certain other items were proceeds from the conspiracy; and, therefore, the Court should order that this property is subject to forfeiture. *See* Dkt. No. 282 at 29. Defendant did not file a reply to his motion and, therefore, has not responded to this argument.

As the Government notes, near the conclusion of trial, Defendant agreed to have the Court decide the forfeiture issues in this case. Since Defendant has not responded to this argument, the Court declines to rule on the forfeiture issue at this time. Rather, the Court will address this issue at the time of Defendant's sentencing.

IV. CONCLUSION

After carefully reviewing the entire record in this matter, the parties' submissions and the applicable law, and for the above-stated reasons, the Court hereby

ORDERS that Defendant's motion for judgment of acquittal or, in the alternative, for a new trial (Dkt. No. 277) is **DENIED**; and the Court further

ORDERS that the Clerk of the Court shall serve a copy of this Memorandum-Decision and Order on the parties in accordance with the Local Rules.

IT IS SO ORDERED.

Dated: December 28, 2022
Albany, New York


Mae A. D'Agostino
U.S. District Judge